VERTIGO MENIÈRE.—REPORT OF A CASE. - COMMENTARY.[1]

By FRANK K. HALLOCK, A. M., M. D.

Cromwell, Conn.

THE following case represents a study of the cardinal symptoms, deafness, tinnitus amd vertigo, as related to each other and to neurasthenia.

Mrs. B., American, aged 54, married, formerly school teacher; family history good and no inherited defects or tendencies known as special aetiological factors. At two years of age had, so called, brain fever of seventeen weeks' duration. The cranial bones separated at the sutures and patient forgot how to walk. Recovered fully. During childhood fell down stairs and suffered severe contusions with loss of consciousness. No after effects. At ten years had measles followed by abscess in right ear which broke spontaneously. No impairment of hearing resulted. Puberty at twelve to thirteen years, with no abnormal symptoms. Began teaching school at eighteen and married at twenty-five years. First child two years later with a single eclamptic seizure (head drawn to right side), three days before delivery. Mammary abscesses followed. After an interval of two years, the second and last child was born with no trouble. Death of husband necessitated a severe struggle to support herself and children. At one time she was overcome by the heat but did not lose consciousness. On another occasion, she experienced a sudden drawing sensation extending from the occiput into the eyes, making them feel crossed and strained. There was a momentary blurring of vision, but no pain and no headache. Examination of the eyes by Dr. S. B. St. John, of Hartford, Conn., revealed amblyopia of right eye, of long standing. The patient was totally unaware that she could not read with this eye. The menopause began in the forty-seventh and terminated in the fiftieth year. This undoubtedly aggravated the general nervous state but produced no special symptoms. There is no syphilitic or tubercular taint, and patient has never had typhoid or scarlet fever, or diphtheria. At the time of the onset of the first ear symptom the patient was in fair physical condition. She was by no means as vigorous and energetic as formerly, but she had complete self control and exhibited no nervous symptoms. The patient is naturally very capable, sensible person of strong will power.

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[1] Read by title.

Development of the Symptoms. On the morning of October 2, 1885, at the age of forty-three years, patient was awakened by a loud, roaring noise, in the head and right ear, which she compared to the sound of escaping steam. This roaring, or hissing, continued constantly for five weeks and then subsided into a persistent beating, or pulsating sensation, referable to the right ear. No head, eye, or other symptoms appeared, but the patient was greatly exhausted by the tinnitus. Dr. St. John reports that there existed only the ordinary symptoms of catarrhal otitis media, with slight loss of hearing which gradually increased. It was not until six months after the onset that patient accidentally discovered partial deafness in the right ear. The irritating nature of the tinnitus, with anxiety as to hearing power, and apprehension of brain disease, gradually affected her general health and rendered her extremely nervous. In the fall and winter of 1890-91, patient was more than usually annoyed and weakened by the tinnitus, and also there began to appear a new symptom, namely, a mild degree of dizziness. Finally, in February, 1891, five years after the beginning of the tinnitus, the first pronounced attack of vertigo occurred. This took place in the night with severe vomiting, and the resulting prostration was extreme. Numerous slight attacks of dizziness with tinnitus followed for a period of four months, and then these symptoms increased in severity and were associated with a gastritis lasting seven weeks. During this gastritis the vertigo was constant and there occurred three exacerbations at intervals of about two weeks apart. The final paroxysm being one of the most severe ever experienced by the patient. From this time on the tinnitus was persistent, and occasionally, vertigo was noticed.

In February, 1892, one year after the appearance of the vertigo, the tinnitus reached its height, and with it marked acoustic hyperæsthesia. The patient now consulted Dr. William H. Thompson, of New York, who thought the labyrinthine disease was associated with a sub-acute pachymengitis of the right parietal region. Vertigo, at this particular time, was not a prominent symptom. Tenderness over both occipital nerves was noticed. The treatment prescribed was antiphlogistic, with counter-irritation over the mastoid region. Improvement followed, and the tinnitus grew less annoying and was often absent for short periods.

In September, 1892, occurred the fifth pronounced paroxysm of vertigo, and it was accompanied by a dysenteric attack. The sixth paroxysm, two months later, occurred under personal observation, and apparently was induced by what proved to be the final effort to menstruate. The vertigo was sufficient to excite nausea but not vomiting, although the latter could have been easily produced by further movement of the body. The treatment inaugurated at this time was directed almost entirely to building up the general condition. The life of the patient was carefully regulated, and for a number of months there was a steady gain in strength. No vertigo appeared until the following summer (1893). Overdoing and the hot weather were the assignable causes. The attack was comparatively mild in character, but was associated with dyspepsia and dysentery. Rallying from this, the patient continued in a very comfortable condition until the next spring (1894), when she again went beyond her strength in social affairs, and suffered in consequence a mild prostration. On this occasion there was no vertigo or other special symptom, except the tinnitus, which was well marked.

A year now intervened, and the patient was so encouraged by her good health that she once more overtaxed herself, and experienced as a result a most severe vertiginous attack. This paroxysm occurred in February, 1895, and is the eighth and last of the major series of attacks. During the summer of 1895, although the patient was much prostrated and had a return of former intestinal disturbance, there was no further vertigo. This, the last attack, will bear a brief description. The patient was resting quietly on the sofa when the vertigo suddenly seized her. She had had her noon meal three hours before, and there was no sign of indigestion. The nausea and vomiting, however, were extreme, and for two days she could not lift her head off the pillow without a return of vertigo and vomiting. The vertigo lasted four days. The tinnitus, contrary to the rule, was roaring and not pulsating in quality, and seemed of tremendous force. With the subsidence of the vertigo the tinnitus settled into its usual mild, pulsating form. The power both of sight and hearing was greatly reduced, and for a number of days objects appeared far away and blurred, and sounds were indistinct and perverted. The feeling of exhaustion was so great that patient could not walk until four days after the vertigo ceased. I saw the patient four months after this attack, and she had not yet recovered her previous good health. She complained of being restless, irritable and depressed. Strength tests showed her to be weaker, and the reflexes were slightly exaggerated. The eyesight was diminished, with a tendency to blurring. Noises were painful and distressing, and the hearing power was slightly reduced. She was advised to spend the summer in Maine and lead a quiet, regular, out-door life. This plan was followed, but soon a tonsilitis, right-sided only, developed, and with the accompanying exhaustion came a series of gastric and intestinal disturbances which continued until fall. Throughout this summer attack the tinnitus was more or less present, but there was no vertigo. During the past winter, 1895–96, the tinnitus has been more marked, owing to two successive colds, or grippe attacks, which induced a catarrhal condition in the pharynx and Eustachian tubes. The patient has not been able to endure much exertion, but the weakness, although fundamentally neurasthenic, has not been characterized by any marked nervous symptoms such as existed in the past. On March 7, 1896, patient experienced a slight dizzy sensation on the street and in the house. There was no turning or true vertigo, but merely the feeling of insecurity of the body as to its position and relation to surrounding objects. Throughout the history of these attacks there has been no loss of consciousness and no headache.

EXAMINATION.

This was made in October, 1892, when the patient first came under my observation, and the neurasthenia was most pronounced.

General physical condition when free from pronounced ear symptoms: A short sturdy woman, in good color and flesh. Expression somewhat tired and anxious. No organic disease. Pulse 82, full and easily excited. No atheroma. No tenderness on cranium or spine. No incoördination. Romberg symptom absent. No sensory or motor symptoms except as noted below.

General mental condition: Intellect strong; good common sense, will power and memory; no hysteria. Temperament is not nervous, in the ordinary sense, but active and energetic. She is rather intense and enthusiastic, but has good self control.

Special symptoms referable to the neurasthenic condition and manifested under excitation: Over active reflexes, superficial and deep; fine general tremor, especially in hands and about mouth; palpitation of heart; dyspnœa; fluctuation in pulse and vaso-motor disturbance; flushing of face; hot and cold extremities; gastric disorders; constipation or the reverse; variation in the amount and character of the urine. All exertion is difficult, and it is a great effort to use will power and maintain self-control; the state of feeling vacillates, apt to be unduly elated or depressed; irritability of temper and unreasonableness is noticed at times, and also morbid apprehension.

Special Senses: Smell and taste normal. The cutaneous sensations, touch, temperature and common sensibility were normal and also the muscular sense. Dr. Fred Whiting of New York examined the eye and ear and reported as follows:—Eyes: movements of globes normal, axes parallel. Pupils normal in size, shape and reaction.

Distant vision: O. D. $\frac{18}{200}+2D=\frac{18}{100} \supset$ cyl. $+2.50D$ ax 90°$=\frac{18}{50}$ (great improvement).

Distant vision: O. S. $\frac{18}{20}+50D=\frac{18}{20}$. Cyl. not accepted in any meridan.

Near vision: O. D. Jaeger No. 5, with difficulty, with glass 4D $\supset$ 2.50 ax 90°.

Near vision: O. S. Jaeger No. 1, with glass 2.25D.

Accommodation: O. D.=O.; O S.=10″ to 14″.

Astigmatism (Javal). O. D.+3 D. ax 90°; O. S. +.50D ax 90°

Extrinsic Muscles, at 20 feet: Dynamic divergence 2; Abduction 5; Adduction 5.

Visual field is normal; color perception is correct.

Lens and media clear in both eyes.

O. D. size and form of retinal eyes normal; macula gives usual appearance of choroid in amblyopic eye; fundus hyperopic and astigmatic.

O. S. Fundus hyperopic and normal.

Conclusions: (1) Present condition has always existed, and patient is neither the better nor worse than would be accounted for by age and neurasthenia.

(2) Patient has not now, and probably never has had, for reading, binocular vision. The sight on the right eye is so poor that no attempt is made to fuse the retinal images, and hence no strain results, and the eyes need not be considered a factor in the case.

Ears.—Membrana tympani show slight traces of catarrhal otitis media, the right somewhat more than the left Both tympanic cavities are in excellent condition, the ossicles vibrating freely and showing no ankylosis of articulation. The Eustachian tubes are patent by Politzer, Valsalva and catheter. Hearing of the tuning fork by both aerial and bone conduction is very much diminished on the right side. On the left side aerial conduction is reduced but the bone conduction is normal. The result of the examination is given in detail under the heading deafness. Tinnitus was well marked throughout the tests and also vertigo sufficient to cause staggering and uncertainty in the gait.

Conclusions.—(1) Evidence of previous catarrhal otitis media in both ears. (2) The function of the middle ear on the right side is too nearly normal to account for the symptom-complex. (3) The peculiar character of the deafness, the tinnitus and the paroxysmal attacks of vertigo favor the diagnosis of labyrinthine disease. (4) The single symptom, slight deafness in the left ear, must be considered a relic of former otitis media and referable to the middle ear.

CLINICAL HISTORY AND STUDY OF THE CHIEF SYMPTOMS.

Tinnitus.—This was the first symptom to appear eleven years ago and it has continued nearly constant to the present time. Its onset was sudden and severe. The quality at first was a high-pitched roaring which lasted five weeks and then passed into a low-pitched and pulsating form.

When the patient gets excited the tinnitus becomes aggravated, and is described as "pumping" or "throbbing." With the exception of the onset and the eighth or last vertiginous paroxysm, fourteen months ago, the tinnitus has not assumed a "roaring" quality. Its intensity varies according to the state of the general health and the amount of physical or mental exertion attempted. Under the most favorable circumstances, when the patient is feeling well, it is often absent a number of hours, and although she is always conscious of it sometime during the day, it is endurable. At other times when a neurasthenic condition is present the slightest excitement of mind or body is sufficient to arouse it. The tinnitus is synchronous with the pulse and is directly influenced by vasomotor changes. Hence, a passing thought, or body movement which disturbs the circulatory rythm, will at once increase it. The tinnitus is always very pronounced, but, contrary to the usual testimony in these cases, it does not increase in intensity as an attack of vertigo approaches. Five years ago, the sixth of its duration, the tinnitus reached its maximum intensity, and it was at this time that a sub-acute pachymeningitis was supposed to be in progress. During this exacerbation no vertiginous symptoms of importance were experienced. At this time patient was much troubled with dreams at night and frequently awakened with pulsating tinnitus and fear of suffocation. No vertigo noticed on these occasions. In this same connection it should be noted that on two occasions previous to the appearance of the vertigo, paroxysmal attacks of tinnitus were associated with severe dysentery. Also during the spring of 1893 and summer of 1895 no vertigo accompanied a decided increase of the amount and intensity of the tinnitus consequent upon a period of general prostration. Pressure on the carotids sometimes, not always, would temporarily lessen the tinnitus.

Deafness. This was not noticed by the patient until six months or more after the onset of the tinnitus. The hearing, however, was reduced, and with a watch heard at thirty inches the record of Dr. St. John reads $\frac{4}{30}$ for both ears. Two years later the hearing had decreased to contact on the right side, and eight inches on the left. A few months later, following active treatment, this increased to one inch in the right ear and ten inches in the left. The condition at this time was a mild catarrhal otitis media. Seven years after the onset of aural symptoms, that is, October, 1892, Dr. Whiting's examination gives for hearing power the following data:

Watch, aerial conduction, R, at contact.
" " " L, at 12 inches.
Fork, middle C, aerial conduction, R. $\frac{30}{60}$.
" " " " L. $\frac{50}{60}$.
" " bone " R. $\frac{45}{60}$.
" " " " L. Normal.
" " vertex and teeth heard only on left side.

In June, 1895, four months following the last pronounced attack of vertigo, the hearing power on the R. side had slightly decreased and on the L. or good side, it had fallen to 6 inches.

On March 12, 1896, examination resulted as follows:

Watch, air, R. on contact.
“ “ L. at 3 inches.
“ bone R. not heard.
“ “ L. heard well.
Middle C. Fork, air, R. $\frac{25}{60}$.
“ “ “ L. $\frac{45}{60}$.
“ “ bone, R. $\frac{10}{60}$.
“ “ “ L. Normal.
“ “ on vertex and teeth only on L. side.
“ “ bone, closing R. meatus did not increase sound.
“ “ bone closing L. meatus in creased sound.

All varieties of sound are still heard, voice, bell, whistle, piano, etc. The lower notes more distinctly than the upper. The tests of hearing power have given slightly varying results as follows: An increase or improvement in the hearing when the tinnitus is marked or when the patient is excited, or when there is noise present; a decrease in the hearing is noticed in the relaxed condition following a paroxysm of vertigo or tinnitus.

Vertigo. This appeared five years after the tinnitus suddenly in the night, awakening the patient out of sleep and terminating in severe vomiting. A few months previous to this, patient experienced at intervals slight dizzy turns, and throughout her sickness since, mild attacks of dizziness have been of varying frequency. She would be able to walk and manage herself fairly well, but there was apt to be some staggering in the gait, and a general uncertainty of all her movements. The tendency was to fall or pitch forward, especially in going down stairs. Patient almost always kept quiet, and in the horizontal position, and on this account these attacks were seldom accompanied by nausea. There is no question, however, that very often this simple dizziness would have increased to genuine vertigo with nausea and vomiting if she had been compelled to stand up and move about. Sudden movements, especially of the head, and stooping over, invariably induced a vertiginous condition which compelled patient to lie down. In severe attacks of vertigo the patient could not lift her head from the pillow, or even open the eyes without precipitating vomiting. These so-called major attacks have occurred eight times, and have been in each instance truly paroxysmal in nature. That is, the onset of the vertigo has been sudden and overwhelming with marked nausea and vomiting. At such times the subjective and objective sensations are very pronounced, and the patient herself, bed, objects, and the entire room appear to whirl round all together, taking the direction of right to left, that is, away from the affected ear. This direction is considered to be of rare occurrence, but there is possibility of error in the replies of patients, and the data on this point are not sufficiently accurate to be satisfactory. In this instance the objects appeared on the right periphery of the field of vision, passed across and disappeared at the left border of the field, that is, the direction of the motion was from right hand to the left, in front, not behind the body. The patient was not conscious of any ocular symptoms, but in connection with this phenomenon this query is raised: could the difference in function between the right or amblyopic eye, and the left or good eye influence the direction of this apparent movement of self and objects? Could for instance, the vertiginous sensation calling forth, as it does every effort, motor aud sensory, to correct and regain the lost equilibrium, could it, in the general tumult that prevails, provoke the poor eye to unwonted action, such as to attempt to overcome the muscular insufficiency, with the result stated, viz: directing the subjective movement from right to left? The action of vomiting brings relief, but it is followed by severe physical exhaustion and mental depression lasting several days. The character ef the vomiting varies with the intensity of the vertigo; in the lesser attacks simply emptying the stomach is sufficient to break the paroxysm; in the more severe attacks the vomiting is repeated as often as the vertiginous sensation returns, and the final acts usually brings forth considerable bile. The forced and jolting movements of travel by sea and land, do not excite the vertigo, and looking over a precipice, or off a housetop creates no disturbing sensation.

The gastric and intestinal symptoms are unquestionably of nervous origin and foundation. They are generally preceded and always accompanied by nervous manifestations, the most pronounced attacks being consequent upon a paroxysm of tinnitus or vertigo. The fluctuating behavior of the symptoms, and the failure and contradictory action of ordinary remedies indicate the variability of the nervous control with a predominance towards an atonic condition.

The neurasthenia is of a simple, not profound type, and must be considered to be the result of the operation of at least three factors or conditions. First, an anxious and exacting life of teaching school and rearing her children; second, superimposed upon this the development of an harassing and persistent tinnitus which is sufficient, single handed, to produce nervous exhaustion; third, the climateric influence serving to accentuate and fasten together the neurasthenic symptoms. The neurasthenia is spoken of as simple not only to indicate the character and severity of the symptoms but also to call attention to the fact that in this case we are dealing with an individual of fundamentally good nervous control, and on this account, it is believed, the neurasthenia, as a whole, is far less profound than if it occurred in a person of strong nervous temperament. In the latter instance, in addition to the increased neurasthenia, it will be noticed that the attacks of vertigo occur more readily and with much greater frequency, several distinct prostrations during one day, and repeated upon a succession of days, being not uncommon. In the present patient there exists a neurasthenia of medium grade, marked by execerbations which generally have tallied with the series of vertiginous paroxysms, eight in number, covering a period of ten years.

The treatment has been almost entirely hygienic. Attention to the diet, balancing the exercise and rest, and regulating the daily habits soon brought about an improvement in the bodily functions. For a long time, however, the patient was unable to depart from her regular daily program without experiencing fatigue and reviving the annoying tinnitus. All treatment aimed directly at this latter symptom failed as to permanent effect. Calm, easy living from day to day was the only way for her to escape this incessant plague, and it was repeatedly demonstrated that keeping within the limitations prescribed she was safe and comfortably free from the tinnitus and gained steadily in strength. Unfortunately the conditions of her home life have constantly tempted her to over-do, and the result has been a neurasthenic condition more or less persistent.

The effect of the drugs.—These experiments were made three and a half years ago, when the neurasthenia was most marked. Brief but distinct tests of single doses were made with the drugs mentioned below during the vertiginous attack, but no positive results were obtained except in the case of potassium bromide. Tests with the drugs increasing the pulse rate and the arterial tension gave these results: (1) Sulphate of strychina, $\frac{1}{60}$ gr. t. i. d., acted well as a mild general stimulant and relieved the chronic constipation then present; given at $\frac{1}{30}$ gr. t. i. d. it increased both the tinnitus and the general nervousness. (2) Sulphate of sparteine, $\frac{1}{20}$ gr., would very frequently lessen tinnitus; at other times repeated doses produced no effect. (3) Fluid extract of cactus grandiflorus, ten drops, acted well to steady patient much in the same way as small doses of strychnia. In twenty drop doses a stimulating effect was noticed, even to mild exhilaration. Of these three drugs, sparteine affected the tinnitus most favorably and the strychnia and cactus operated best as general tonics. After continued use these remedies soon failed to be effective, and varying the size of the dose did not restore their value. Practically they were useless. Nitroglycerine and amyl nitrite, two drugs of similar action, increasing the pulse rate and decreasing the arterial tension did not generally effect the tinnitus in ordinary doses; $\frac{1}{100}$ gr. of the former and a three drop pearl of the latter usually made no impression upon ihe ear beating. On one occasion seven doses of nitroglycerine $\frac{1}{100}$ gr. in seven consecutive hours produced only a slight ache and feeling of tightness and confusion in the head with only a moderate increase of the tinnitus. Two pearls of amyl nitrite, of three drops each, taken in quick succession, would produce a transient increase of the ear beating. The sixth drug, especially tested at this time, was bromide of potassium. A dose of thirty grains would invariably relieve the general hyperaesthesia, tinnitus and vertigo, and it proved the only agent of permanent value in relaxing the paroxysmal condition and calming the entire nervous system. Ten grains of chloral, which acts like the bromide in reducing both the pulse rate and the arterial tension was sometimes added in the extreme nervous conditions with most happy results. The effect of the bromide on the auditory impulses was very distinct; tests of the hearing under its influence showed a reduction to one-half the ordinary power. These tests, limited though they are, reveal beyond question the intimate connection of the tinnitus with the circulation in the ear. Other conditions being favorable, an improvement of the tinnitus, temporary and of varying degree, is noticed to follow the administration of drugs which effect a distinct but uniform change in the blood supply and rythm. For instance, an increase both in the pulse rate and the tension, as well as a decrease in the same, yielded a favorable result, whereas an uneven change in the circulation, such as occurs when the rate of beat is increased and the tension diminished, produced an exacerbation of the tinnitus.

COMMENTARY.

Apparently the history of this case would show the tinnitus and deafness as originally due to a middle ear catarrh, and that five years later, following the appearance of vertigo, the labyrinth became involved, and then these three symptoms were referable to an affection of this part. Certain it is that for the past four years the deafness in the right side must be called labyrinthine and that in the left or good ear, although it has increased from $\frac{12}{50}$ to $\frac{3}{50}$, has not changed, but still remains of middle ear character. The condition in the left or good ear is not easy to interpret. On one hand the middle ear condition does not seem severe enough to cause such a loss of function as has occurred, and, on the other hand, there appears to be no invasion or involvement of the labyrinth, relying on good bone induction as the chief diagnostic sign. The fact that the tinnitus is right-sided points to a more pronounced lesion in the right ear; and further than that, the abscess in this ear occurring at ten years of age, must not be forgotten as a factor of unknown significance in predisposing to a labyrinthine affection. Whatever the nature of the lesion existing in the labyrinth of the right ear, its course has been slowly progressive. Admitting the difficulty that exists in differentiating between middle and internal ear deafness, and considering the onset and character of the tinnitus, and reviewing the entire history of the case, one is warranted in the belief that possibly the deafness of the right ear was labyrinthine from the beginning of the aural symptoms, but it escaped detection as such. Such a supposition in no wise reflects upon any previous diagnosis. On the contrary, it only emphasizes the fact that in the early history of Menière's disease it is well nigh impossible to define the character of the deafness. It can be referred to the middle ear as easily as to the labyrinth, and only the subseqnent history of the case can determine to which it belongs. In view of the difficulty of diagnosing the character of the deafness, the writer has been inclined to advance the following considerations as helping to explain the problem:

First, the majority of labyrinthine affections are supposed to be consecutive to some previous ear trouble, and hence it is not unreasonable to consider that at some period the deafness may be of mixed character, partaking of both middle and internal ear qualities. Secondly, at the onset of the labyrinthine involvement, and for some time subseqent, the local condition of the labyrinth is very disturbed, and the nerve endings, judging from the accompanying tinnitus, are in a high state of excitation. The auditory nerve, as a whole, shows a loss of power, but such function as remains is temporarily over-active, so that the bone conduction for the time being may not appear to be especially diminished. Thirdly, positive variations in the result of tests which fluctuate according to the general condition. The nerve reaction in tense nervous excitement may differ from that in extreme relaxation sufficiently to allow a diagnosis of deafness to be made, at one time of the middle ear, at another time of the labyrinth. Fourthly, slighter variations in the results of tests due to increased tinnitus and surrounding noise. Of course, these considerations have most weight in the early stages of the ear disease, when the loss of function is not well marked.

The diagnosis of subacute pachymeningitis of the right parietal region, either by itself, or in connection with the aural conditions must remain doubtful. At the time one of the chief symptoms was present (tenderness over the occipital nerves) the tinnitus was pronounced, and the patient was in a very anxious state of mind, and this latter condition, not infrequently, is known to be accompanied by cranial tenderness.

Following the history and course of the symptom-complex we notice a gradual diminution in the amount and severity of the vertigo and tinnitus. This is in keeping with the general rule that as the hearing power grows less, these symptoms fade away. Exacerbations of both vertigo and tinnitus, however, may occur at any time, and be as pronounced as when the deafness was less marked. Neither of these two symptoms is dependent on the degree of deafness, nor upon each other. There is a certain general relation but no special dependence, and the increase or decrease in severity of one symptom does not necessarily involve a similar change in another. The nervous explosion or vertiginous paroxysm in the great majority of instances, it is believed, depends more upon a condition of general nerve instabilily, than upon the specific ear lesion. That is, the aural condition, whether it operates directly as a peripheral irritation, or is involved secondary to central disturbance, usually has associated with it an unstable nervous state making it possible for a paroxysm to occur. Occasionally, such a paroxysm does appear in an apparently strong and well-balanced individual and it may be of the severest type. The rule is, however, that where such a person has one, or at most a limited number of attacks, at wide intervals, the neuropathic individual will be subject to a series of attacks, at frequent, but very irregular intervals. Hence the importance of neurasthenia as a factor in the occurrence of vertigo Menière—if we mean by this term, nervous weakness, lack of control, instability—can scarcely be overestimated. Without exception, in this case, the history of every paroxysm of any prominence and the majority of even the minor dizzy and ear beating attacks, shows them to be cotemporaneous with periods of more than ordinary nervous exhaustion, or consequent upon more than the usual amount of physical or mental exertion. The practical teaching of this case in regard to treatment is this: The symptom-complex, Menière's disease, is of secondary importance to the general condition of the patient. Study to improve this and teach the patient how to live a quiet, hygienic life. The actual symptoms should be the subject of earnest and serious treatment (at present chiefly experimental) on the part of the physician, but the patient should feel that they are of minor significance compared to the fundamental well-being of the entire body.